AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) A bioartificial implant, comprising: a semipermeable barrier ~~designed~~

~~from one side, to allow diffusion or prevent diffusion of predetermined substances, materials, molecules, cells, and cell lines to the other opposite side of the barrier, and designed from said opposite side, to allow diffusion or prevent diffusion of predetermined substances which are the same as or different from the substances, materials, molecules, cells, and cell lines; wherein the semipermeable barrier has~~ having a surface coating of a bioactive metal, ~~said~~ the surface coating being permeable to not interfere with the semipermeability of the semipermeable barrier~~allow or prevent said diffusions~~.

2. (Currently Amended) An implant as claimed in claim 1, wherein the semipermeable barrier has a first side and a second opposite side and the semipermeability of the semipermeable barrier allows diffusion of a first group of at least one of substances, materials, molecules, cells, and cell lines from the first side to the second opposite side but prevents diffusion of a second group of at least one of substances, materials, molecules, cells, and cell lines from the first side to the second opposite side~~said predetermined substances, materials, molecules, cells and cell lines are produced in a human body or in an animal body~~.

3. (Previously Presented) An implant as claimed in claim 1, wherein said surface coating is a net of said bioactive metal.

4. (Previously Presented) An implant as claimed in claim 1, wherein said bioactive metal is selected from one of titanium, zirconium, tantalum or an alloy thereof.

5. (Previously Presented) An implant as claimed in claim 4, wherein said bioactive metal is titanium.

6. (Previously Presented) An implant as claimed in claim 1, wherein the metal is applied by an atomizing process.

7. (Withdrawn) An implant as claimed in claim 1, wherein it is in the form of container.

8. (Withdrawn – Currently Amended) An implant as claimed in claim 1, wherein the semipermeable barrier has said surface coating on both sides.

9. (Withdrawn) An implant as claimed in claim 1, wherein the coating has a thickness from 5 nm.

10. (Withdrawn) An implant as claimed in claim 9, wherein the coating has a thickness of about 50-250 nm.

11. (Currently Amended) An implant as claimed in claim ~~1~~2, wherein said semipermeable barrier is designed,

- ~~from one said~~ to allow diffusion of body cell nutrient and oxygen from a donee's body from the first side to the second ~~the other~~ opposite side of the semipermeable barrier where body organ/cells from a donor are positioned, and

- from ~~said other~~ the second opposite side and to the first side to allow diffusion of substances ~~selected in advance~~, produced by the donor's body organs and cells.

12. (Currently Amended) An implant as claimed in claim ~~1~~2, further comprising a sensor element enclosed by said semipermeable barrier, whereby said semipermeable barrier is designed,

- from ~~one~~ the first side to allow diffusion of a substance to the ~~other~~ second opposite side of ~~a~~ the semipermeable barrier, said substance being detectable by said sensor element, and

- from ~~said other~~ the second opposite side to allow diffusion of said substance to the first side.

13. (Previously Presented) An implant as claimed in claim 12, wherein said substance is blood sugar and said sensor element is a blood-sugar detecting sensor element.

14. (Withdrawn) An insulin pump comprising:

a bioartificial implant as claimed in claim 13, and

an infusion set for delivering insulin based on a blood sugar level detected by said blood-sugar-detecting sensor element of said bioartificial implant, whereby said infusion set is provided with a semipermeable barrier having a surface coating of said

bioactive metal, said surface coating being permeable to allow diffusion of insulin through said semipermeable barrier.

15.-20. (Cancelled)

*** END CLAIM LISTING ***